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TITLE: Dyeing and printing of materials

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FIG. 5, which is a cross-sectional view through one of the dye jet structures of FIG. 4, shows wherein the gun bars 16 consist of a Z shaped member 113 attached to second portion 108 by screws 107 and which in turn supports first portion 106 being locked thereto by suitable screw washer assembly 110 which engages notch 109 in the Z bar support member 113 and the top of the first portion 106. Z shaped member 113 and second portion 108 provides an accurate plane surface which coacts with the upper portion 106 when clamped securely thereto to provide a non-leak construction. As described previously dye from cavity 111 is supplied continuously from jet 104 and the pattern in the fabric being dyed is controlled by cutting off or cutting on the air pressure to selected air lines 112 to divert the dye liquid into the collection and separation chamber 114. Extending across the chamber 114 is a deflector or cut off 116 which tends to direct dye in the air stream toward the openings 118 in the cylinder 121 around the auger member 90. The dye in the composite stream from the air nozzles 120 and 104 separates from the said stream partially due to the Coanda or surface attachment effect around air foil shape 122 of the bottom of the second portion 108 of the gun bar and to the suction pressure applied to the chamber 124 by suction line 126 to pull the air through the

openings 128 in the plate 130. The air foil shape 122 of the bottom of the second portion 108 and the deflector 116 together form a nozzle therebetween to provide a venturi effect which acts to pull air into the collection and separation chamber.